



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

[Handwritten signature]

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,807	05/31/2001	Peter V. Boesen	P03999US8	2090

22885 7590 07/23/2004

MCKEE, VOORHEES & SEASE, P.L.C.
801 GRAND AVENUE
SUITE 3200
DES MOINES, IA 50309-2721

EXAMINER

HARVEY, DIONNE

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 07/23/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,807

Applicant(s)

BOESEN

Examiner

Dionne N Harvey

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,721,783) in view of Bauman (US 6,048,305).

Regarding claim 1, Anderson teaches a method for hands free voice communications using a personal communication device comprising : sensing a bone conduction signal from a bone conduction sensor (12; also see column 26, lines 57-60); transmitting the sensed bone conduction signal from a transmitter(13) to a personal communication device (see column 4, lines 1-12, column 6, lines 8-13 and figures 1 and 2, wherein Anderson teaches that the speech signals are picked up by the earpiece and transmitted to the RPU for processing. The RPU may include straight forward connections to a personal communication device); and processing the sensed bone conduction signal at the personal communication device to create a processed audio signal.

Anderson does not clearly teach that the sensor is disposed such that it is fitted to the contours of the posterior superior wall of the external auditory canal or that at

least the posterior inferior wall of the auditory canal remains unobstructed to allow ambient sound into the external auditory canal and to avoid the occlusion effect.

In figures 1,2 and 4, and discussed in column 6, lines 30-40, Bauman teaches that an in-ear hands-free voice communication device may be constructed such that it is fitted to the contours of the posterior superior wall of the external auditory canal and that at least the posterior inferior wall of the auditory canal remains unobstructed. It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the housing structure in figure 1 or figure 4 of Bauman for the housing structure in figure 1 of Anderson (see Bauman reference, Column 4, lines 56-57 in which Bauman teaches allowing ambient sound into the external auditory canal and avoiding the occlusion effect; also see Column 6, lines 34-36).

Regarding claim 2, The combination of Anderson teaches that the personal communication device includes a PDA.

Regarding claim 3, in column 25, lines 4-7, Anderson teaches transmitting the processed audio signal from the personal communication device over a cellular transceiver.

Regarding claim 4, Anderson teaches transmitting the processed audio signal from a personal communication device or other communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 5, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 6, Anderson teaches a voice activation function (see claim 66).

2. Claims 7-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,721,783) in view of Bauman (US 6,048,305) and further in view of Kruger (US 5,692,059).

Regarding claims 7, 12, 13 and 19, as set forth in the rejections of claim 1, above, the combination of Anderson and Bauman teaches: an earpiece housing (22); sensing an air or bone conduction signal from a non-occluding air or bone conduction sensor (12) disposed within the external auditory canal and in a position proximate the posterior superior wall of the external auditory canal such that at least one wall of the external auditory canal remains unobstructed; transmitting the sensed air or bone conduction signal from a transmitter (13) located in an earpiece to a personal communication device; processing the sensed air or bone conduction signal at the personal communication device to create a processed audio signal; and a receiver (transceiver-13 functions as both transmitter and receiver). The combination of Anderson and Bauman fails to teach simultaneously transmitting signals from both an air sensor and bone conduction sensor.

In column 3, lines 40-48, Kruger teaches the combined use of a bone sensor and air sensor in an in-ear voice communication device and further teaches that the signal for each device is transmitted simultaneously (column 3, line 41-46). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Anderson, Bauman and Kruger, thereby using both an air and bone

Art Unit: 2643

sensor for the earpiece of Anderson, for sensing a wider band of voice frequencies and for better speech intelligibility.

Regarding claim 8, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claim 9, Anderson teaches transmitting the processed signal from a personal communication device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 10, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 11, Anderson teaches a voice activation function (see claim 66).

Regarding claim 14, Anderson teaches that the personal communication device includes a PDA.

Regarding claims 15 and 20, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claims 16 and 21, Anderson teaches transmitting the processed signal from a personal communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 17, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 18, Anderson teaches a voice activation function (see claim 66).

Response to Arguments

Applicant's arguments filed 05/19/2004 have been fully considered but they are not persuasive.

a. Nothing To Suggest Combining Bauman With A Bone Conduction Signal From A Bone Conduction Sensor:

The Applicant's argument is not persuasive. Bauman (US 6,048,305) is not relied upon as the 'primary' reference in the above rejections, and therefore, the Examiner does not modify the Bauman reference such that it includes a bone conduction sensor. In fact, the Examiner has relied upon Anderson (US 5,721,783) as the 'primary' reference in the above claim rejections, and as set forth in the Examiner's Office Action, the Anderson reference already provides the teaching of the use of a bone conduction sensor. The Applicant is therefore erroneous in his interpretation of the Examiner's written opinion, and subsequently sets forth an inaccurate argument that there would be no motivation to combine Bauman with a bone conduction sensor, since the Examiner's written opinion of obviousness is not based upon such a modification.

b. No Motivation To Combine Anderson with Bauman, As Set Forth In The Rejection Of Claims 1-6:

As set forth in the Examiner's written opinion, The Anderson reference teaches all but one of the claimed limitation. Anderson fails to clearly teach a device housing being constructed such that it is fitted to the contours of the posterior superior wall of the external auditory canal and such that the posterior inferior wall of the auditory canal is

Art Unit: 2643

unobstructed. The Examiner has relied upon Bauman as the secondary reference for teaching the obviousness of providing such a housing construction.

In Column 6, Lines 30-39, Bauman addresses the frequently occurring "occlusion effect" problem, thereby providing motivation for modifying the construction of the housing in the Anderson device. Bauman solves the "occlusion effect" problem by constructing the device housing such that it leaves open the inferior portion of the bottom half of the wearers ear canal. Since Bauman provides motivation for modifying the device housing of Anderson such that the inferior portion of the wearer's ear canal is unblocked, and since a completely blocked ear canal is not a condition of proper operation of the Anderson device, there exists no evidentiary basis for which the housing of Anderson could not be modified.

Please note, that the Examiner does not rely upon an absence of teaching within the Anderson device as evidence of obviousness. But rather, the Examiner relies upon the teaching within the Bauman reference and the formentioned problem that Bauman is solving as the motivation for modifying the housing of Anderson.

c. The Examiner does not cite any motivation or suggestion to combine Bauman with Anderson from within the Anderson reference, which is the Examiner's primary reference:

According to Administrative Patent Judges, Stuart S. Levy and Lee E. Barrett, "Motivation doesn't have to be in both references. It is sufficient if one reference suggests a modification. For example, if reference B suggests a modification which can be applied to reference A, reference A need not suggest that it can be modified."

- d. "Even If Kruger Discloses Simultaneously Sensing Of Bone Conduction Signals And Air Conduction Signals, Kruger Does Not Disclose Simultaneously Transmitting These Signals. Nor Does Kruger Disclose Transmitting...From A Transmitter Located In An Earpiece To A Personal Communication Device."

The Kruger reference is not relied upon by the Examiner as teaching the formentioned limitations. As indicated in the claim rejection above, in column 4, lines 1-12, column 6, lines 8-13 and shown in figures 1 and 2, Anderson teaches the process of transmitting a sensed signal from a transmitter located in an earpiece to a personal communication device. The Applicant is arguing the Kruger reference individually. However, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

- e. "Although Bauman Can Be Incorporated Within A Hearing Aid, Bauman Is Directed To A Fundamentally Different Problem Than With Kruger Or Anderson...Moreover, Bauman Is Directed To A Fundamentally Different Problem Than Applicant's Claimed Invention..."

Prior art does not need to recognize the same problem as addressed by the applicant. The law does not require that the reasons for combining the prior art references be identical to the reasons set forth in the immediate Application. See *In re Dillon*, 919 F.2d 688,693, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc).

Stated in a different manner, the assertion that the applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N Harvey whose telephone number is 703-305-1111. The examiner can normally be reached on 9-6:30 M-F and alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dionne Harvey



HUYEN LE
PRIMARY EXAMINER